

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of:

Sang-jin KIM

Application No. 10/743,910

Group Art Unit: 1795

Confirmation No. 9164

Filed: December 24, 2003

Examiner: Julian A. Mercado

For: **NEGATIVE ACTIVE MATERIAL FOR RECHARGEABLE LITHIUM BATTERY AND  
METHOD OF PREPARING SAME**

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attention: **BOX AF**

Sir:

This is a request accompanying a Notice of Appeal requesting review of the Final Office Action mailed February 25, 2008, having a period for response set to expire on May 27, 2008 (May 25, 2008 being a Sunday and May 26, 2008 being a Federal holiday).

Pursuant to 1296 OG 67 and 1303 OG 21, the applicants request review of the final rejection in the above-identified application.

No amendments are filed with this request.

**Request for review of the rejection of claim 18 under 35 U.S.C. §102(e) over Sheem et al.**

At page 3 of the Office Action of February 25, 2008, the Examiner rejected claim 18 under 35 U.S.C. §102(e) as being anticipated by Sheem et al. (U.S. Patent 6,355,377 B1)

(hereinafter, "Sheem"). The Examiner referred to col. 7, line 51, et seq., of Sheem.

Claims 18 relates to a negative active material of a rechargeable lithium battery comprising a crystalline carbon core and a carbon shell coated on a surface of the crystalline carbon core, the carbon shell comprising crystalline carbon micro-particles. Sheem, at col. 7, line 51, et seq., and elsewhere, describes, a negative active material having a core and shell structure, and as noted by the Examiner, describes that the carbon shell is semi-crystalline carbon. However, contrary to what is alleged by the Examiner, Sheem contains absolutely no mention of crystalline carbon micro-particles in the carbon shell and therefore, does not teach or suggest a carbon shell consisting essentially of crystalline carbon micro-particles as recited by claim 18. In the allegations of the Examiner in the Advisory Action mailed on May 15, 2008 and in previous Office Actions of August 31, 2007 and February 25, 2008 that Sheem describes crystalline carbon micro-particles, the Examiner has only provided passages of Sheem that relate to the carbon core of the negative active material, and the Examiner has not pointed to any description in Sheem that refers to crystalline carbon micro-particles in the carbon shell. Therefore, this rejection is clearly without basis and should be withdrawn.

**Request for review of the rejection of claim 18 under 35 U.S.C. §102(b) over Miyabayashi et al.**

At page 4 of the Office Action of February 25, 2008, the Examiner rejected claim 18 under 35 U.S.C. §102(b) as being anticipated by Miyabayashi et al. (U.S. Patent 5,401,598) (hereinafter, "Miyabayashi"). The Examiner referred to col. 2, line 14+ and col. 6, line 18+ of Miyabayashi.

Although Miyabayashi, at col. 2, line 14, et seq., col. 6, line 18, et seq., and elsewhere, describes a negative active material including a surface layer and a nucleus, Miyabayashi does not teach or suggest that the surface layer comprises crystalline carbon micro-particles as recited by claim 18. Therefore, this rejection is clearly without basis and should be withdrawn.

**Request for review of the rejection of claims 1 – 9 and 19 - 29 under 35 U.S.C. §103(a) over Sheem in view of Miyabayashi**

Also at page 4 of the Office Action of February 25, 2008, the Examiner rejected claims 1 – 9 and 19 – 29 under 35 U.S.C. §103(a) as being unpatentable over Sheem in view of Miyabayashi for reasons of record. In particular, in the Office Action of August 31, 2007, the Examiner alleged that Sheem teaches a negative active material having a crystalline carbon core having an intensity ratio  $Ra I(1360)/I(1580)$  of substantially 0.01 to 0.45, that the shell has a turbostratic or half-onion ring structure coated on the core, that the shell comprises crystalline carbon micro-particles and semi-crystalline carbon and that the shell has an intensity ratio  $Ra I(1360)/I(1580)$  of 0.2 or more. In the Office Action mailed February 25, 2008 and the Advisory Action mailed May 15, 2008, the Examiner continued to allege that Sheem describes crystalline particles by reciting at col. 7, lines 51 – 53 that “[t]he negative active material includes ...0.1 to 50% of the semi-crystalline carbon shell having turbostratic structure. Regarding Miyabayashi, the Examiner alleged that the Rama spectra data provided relates to the shell of the particles described by Miyabayashi. For the following reasons, this rejection is respectfully traversed, and reconsideration is requested.

Neither Sheem nor Miyabayashi describe a negative active material having a core-shell structure in which the shell comprises both crystalline carbon micro-particles and semi-crystalline carbon as recited by independent claims 1 and 21. As noted by the Examiner, Sheem, at col. 7, line 51 - 56 and elsewhere describes a negative active material having a core and shell structure and having a carbon shell that is semi-crystalline carbon. However, Sheem does not teach or suggest a carbon shell that includes crystalline carbon micro-particles and does not teach or suggest a carbon shell that includes both semi-crystalline carbon and crystalline carbon micro-particles as recited by independent claims 1 and 21. As noted above, the Examiner has only identified portions of Sheem that describe that the carbon core of the negative active material may contain carbon micro-particles. Miyabayashi also does not describe a negative active material having a core-shell structure in which the shell comprises both crystalline carbon micro-particles and semi-crystalline carbon as recited by independent claims 1 and 21. Miyabayashi describes a carbonaceous material having a nucleus and a surface layer around the nucleus, but does not describe a surface layer that includes crystalline carbon micro-particles and does not describe a surface layer that includes both semi-crystalline carbon and crystalline carbon

micro-particles as recited by independent claims 1 and 21. Therefore, the combination of Sheem and Miyabayashi does not teach or suggest all of the limitations of the independent claims 1 and 21.

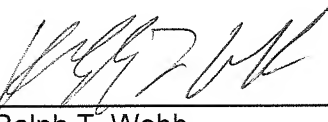
Therefore, the rejection is without basis and should be withdrawn.

If there are any additional fees associated with filing of this Pre-Appeal Brief Request for Review, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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Date: May 27, 2008

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